Key Principles of High-Performing Deposit Return Systems
By returning empty containers to our RVMs, you automatically contribute to our cleanest loop system, reducing the need for new containers produced from new materials and keeping materials clean.

**TOMRA SORTING SOLUTIONS**

Our expert engineers in the field of recycling understand the complex nature of processing raw waste, and have developed solutions to achieve the highest possible recovery and purity rates, producing clean PET flake.

**THE WORLD’S MOST ADVANCED RECYCLING SYSTEM.**

4500+ employees globally

~900 in America
TOMRA has four decades of experience in deposit systems

ACTIVE IN EVERY MAJOR GLOBAL DEPOSIT MARKET

NORWAY
GERMANY
MICHIGAN
QUEBEC
NEW YORK
OREGON

+ 31 more markets

40 BILLION cans and bottles collected annually

84,000 reverse vending machines installed globally

$6.8 BILLION in deposits exchanged annually
We are active in every link of the deposit value chain

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<tr>
<th>REVERSE VENDING</th>
<th>MATERIAL RECOVERY</th>
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<tr>
<td>RVM Technology</td>
<td>Material Recycling</td>
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<td>Service Support</td>
<td>Material Brokerage</td>
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<td>Data Admin/Clearing</td>
<td>Material Processing</td>
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<td>Material Pick-Up</td>
<td>Material Recycling</td>
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![Diagram](image-url)
Deposit systems are known for incentivizing recycling
Deposit systems are extremely effective at capturing items for recycling.

Beverage Container Recovery Rates for Recycling

- US Non-Deposit Average: 27%
- US Deposit Average: 72%
- High-Performing DRS: 90%+

TOMRA
Not all deposit systems are created equal

Return Rates of Every Deposit Return System in the World (2019)

If 2019 data was not available, latest year is shown.
Why are some container deposit return systems succeeding while others are failing?
What We’ve Learned: High-performing deposit return systems prioritize four principles

**PERFORMANCE**
A collection target for all beverages plus a meaningful deposit delivers strong results.

**CONVENIENCE**
The redemption system is easy, accessible and fair for all users.

**PRODUCER RESPONSIBILITY**
Producers finance and invest in the system using the unredeemed deposits and commodity revenues.

**SYSTEM INTEGRITY**
Trust is built into the system through transparent management, a data-driven clearinghouse, and innovative technology.
These principles are brought to life through 12 Key Elements

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<th>PRODUCER RESPONSIBILITY</th>
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Relevant scope of beverages and containers

PERCENT OF BEVERAGE UNITS COVERED BY DEPOSIT PROGRAM

- **Massachusetts**: 41%
- **Vermont**: 46%
- **Michigan**: 56%
- **Iowa**: 64%
- **Connecticut**: 76%
- **New York**: 77%
- **California**: 86%
- **Hawaii**: 87%
- **Maine**: 91%

High-performing systems establish a deposit of 10¢.

U.S. Beverage Container Redemption Rates (2019)

Convenient redemption system for consumers

8 out of 10
of the highest performing deposit return systems in the world are “return-to-retail” models

NETHERLANDS
FINLAND
DENMARK
GERMANY
LITHUANIA
NORWAY
CROATIA
MICHIGAN
Centralizing key responsibilities

The Role of a “Centralized System Manager”

<table>
<thead>
<tr>
<th>Mission</th>
<th>• Accomplish all targets at lowest possible costs for its stakeholders</th>
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<tr>
<td>Owned and financed by</td>
<td>• Beverage producers and retailers</td>
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</table>
| Potential Responsibilities | • Deposit clearing  
• Product registration  
• Fraud management  
• Calculating EPR and/or handling fees  
• Data management  
• Commodity sales/distributions  
• Material transportation  
• Reporting and public education |
MassDEP evaluated impacts of an expanded bottle bill

“Municipal Benefits of an Expanded Bottle Bill” (MassDEP 2009)

- Net Recycling Revenues
- Avoided Collection Costs
- Avoided Disposal Costs
- Litter Abatement
- Net Savings

High estimate: $6.9m
Low estimate: $4.2m

Further reading

“Factsheet: Economic Savings for Municipalities”

- Compiles 30+ studies on the impact of deposit systems on municipalities
- https://www.reloopplatform.org/resources/factsheets/
Studies on job impacts of a modernized deposit system

Jobs Created by NY’s Current Deposit System

- 5,726 jobs

Total Jobs Forecasted for a *Modernized* NY Deposit System

- 7,803 jobs

Thank you!

Mike Noel,
@MrMikeNoel

www.tomra.com
When a ‘redemption rate’ is set in statute, stakeholders align their activities to achieve it.

Container Redemption Rate Targets

- **Norway**
- **Netherlands**
- **Quebec***
- **Lithuania**
- **European Union**
- **Oregon**

*Quebec set staggered goals of 75% collection by 2025, 90% 2030. ** EU set goals of 77% collection by 2025, 90% by 2029.